1. (once amended) A carcass structure for a vehicle wheel tyre, comprising:

at least one carcass ply comprising thread elements substantially disposed transversely of a circumferential extension of the carcass structure; and

at least one pair of annular reinforcing structures disposed close to respective inner circumferential edges of the at least one carcass ply, each of the annular reinforcing structures comprising:

at least one first circumferentially-inextensible annular insert substantially in a form of a crown disposed substantially coaxially of the carcass structure, close to an inner circumferential edge of the at least one carcass ply, the at least one first annular insert being formed of at least one first elongated element extending in concentric coils; and

at least one second circumferentially-inextensible annular insert substantially in a form of a crown disposed coaxially of the tyre, the at least one second annular insert being formed of at least one second elongated element extending in concentric coils,

wherein the at least one carcass ply has end flaps each turned back around an inner circumferential edge of a respective first annular insert and each axially interposed between respective first and second annular inserts,

the at least one carcass ply and each first annular insert abutting against each other along either a whole surface extension of the at least one first annular insert or a whole radial extension of the end flaps.

2. (once amended) The carcass structure of claim 1, further comprising at least one filling body of elastomer material in contact with at least one of the annular inserts.

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3. (once amended) The carcass structure of claim 2, wherein the at least one second annular insert is interposed between a respective end flap and the at least one filling body, the at least one second annular insert being in contact with an end flap on an opposite side relative to the at least one first annular insert.

4. (once amended) The carcass structure of claim 1, wherein a respective end flap of the at least one carcass ply completely covers a respective first annular insert.

5. (once amended) The carcass structure of claim 1, wherein the at least one second annular insert projects beyond one end region of a respective end flap.

6. (once amended) The carcass structure of claim 1, wherein each second annular insert projects beyond an outer circumferential edge of the at least one first annular insert.

7. (once amended) The carcass structure of claim 1, wherein the at least one first annular insert comprises at least one first series of concentric coaxial coils and at least one second series of concentric coaxial coils disposed in axial side-by-side relationship with the coils of the at least one first series.

8. (once amended) The carcass structure of claim 7, wherein a number of coils of the at least one first series is greater than a number of coils of the at least one second series.

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9. (once amended) The carcass structure of claim 8, wherein the at least one first coil series is directly in contact with the at least one carcass ply, whereas the at least one second coil series is directly in contact with a respective end flap.

10. (once amended) The carcass structure of claim 1, wherein the at least one first annular insert projects beyond one end region of a respective end flap.

11. (once amended) The carcass structure of claim 1, wherein the at least one first annular insert projects beyond an outer circumferential edge of a respective second annular insert.

12. (once amended) The carcass structure of claim 2, wherein the at least one filling body is interposed between a respective end flap of the at least one carcass ply and a respective second annular insert.

13. (once amended) The carcass structure of claim 12, wherein the at least one second annular insert is directly in contact with at least one axially outer side surface of a respective filling body, located on an opposite side relative to an end flap of the at least one carcass ply.

14. (once amended) The carcass structure of claim 2, wherein the at least one filling body has a circumferentially outer portion directly in contact with a side surface of the at least one carcass ply.

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15. (once amended) The carcass structure of claim 1, wherein the at least one carcass ply comprises:

a plurality of strip sections each comprising at least two of the thread elements disposed longitudinally and parallel to each other and at least partly covered with at least one layer of raw elastomer material,

each of the strip sections extending in a substantially U-shaped configuration according to a cross section outline of the carcass structure, to define two side portions substantially extending in planes orthogonal to a geometric axis of the carcass structure at mutually spaced apart positions in an axial direction, and a crown portion extending at a radially outer position between the side portions,

the crown portions being disposed in side-by-side relationship with each other along the circumferential extension of the carcass structure, whereas the side portions of each strip section are each partly covered with a side portion of at least one adjoining strip section.

16. (once amended) The carcass structure of claim 15, wherein the side portions of the strip sections mutually converge towards the geometric axis of the carcass structure, covering of the side portions of the strip sections progressively increasing in a direction of the inner circumferential edge of the at least one carcass ply, starting from a zero value close to transition regions between the side portions and the crown portions.

17. (once amended) A method of manufacturing a carcass structure for vehicle wheel tyres, comprising the steps of:

making a carcass ply having a pair of end flaps disposed circumferentially internally;

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forming at least one annular reinforcing structure; and

applying the at least one annular reinforcing structure close to each end flap of the carcass ply;

wherein the step of forming the at least one annular reinforcing structure comprises:

applying at least one first circumferentially-inextensible annular insert close to a respective end flap of the carcass ply, the at least one first annular insert being formed of at least one first elongated element disposed in concentric coils;

turning back a respective end flap of the carcass ply around an inner circumferential edge of the at least one first annular insert, causing the carcass ply and at least one first annular insert to be applied against each other according to either a whole surface extension of the at least one first annular insert or a whole radial extension of the end flap; and

applying at least one second circumferentially-inextensible annular insert close to the at least one first annular insert, the second annular insert being formed of at least one second elongated element disposed in concentric coils.

18. (once amended) The method of claim 17, further comprising the step of applying at least one filling body of elastomer material in contact with at least one of the annular inserts.

19. (once amended) The method of claim 17, wherein at least one of the first and second annular inserts is formed by winding up a continuous elongated element in radially-superposed concentric coils.

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20. (once amended) The method of claim 17, wherein at least one of the first and second annular inserts is formed directly against the carcass ply.

21. (once amended) The method of claim 17, wherein at least one of the first and second annular inserts is formed in a forming die, the forming die being subsequently moved against the carcass ply for application of the at least one of the first and second annular inserts.

22. (once amended) The method of claim 17, wherein the turning-back of the respective end flap comprises the following steps:

axially pushing the end flap for moving the end flap from a first position wherein the end flap projects radially inwardly relative to the at least one first annular insert to a second position wherein the end flap is axially oriented away from an equatorial plane of the carcass structure; and

exerting a rolling action on the end flap for laterally applying the end flap against the at least one first annular insert.

23. (once amended) The method of claim 18, wherein application of the at least one filling body comprises the steps of:

making the at least one filling body in a forming die; and

axially moving the forming die against the carcass structure.

24. (once amended) The method of claim 23, further comprising a step of coupling the at least one filling body with the at least one second annular insert in the forming die, before

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simultaneous application of the at least one filling body and the at least one second annular insert against the carcass structure.

25. (once amended) The method of claim 17, wherein application of the at least one filling body is carried out by forming the at least one filling body directly against the carcass structure.

26. (once amended) The method of claim 25, wherein the forming of the at least one filling body against the carcass structure takes place by extrusion of at least one continuous strip element wound up in superposed coils.

27. (once amended) The method of claim 17, wherein manufacturing of the carcass ply comprises the following steps:

preparing strip sections each comprising longitudinal and parallel thread elements at least partly coated with one layer of raw elastomer material; and

depositing each of the strip sections onto a toroidal support in a substantially U-shaped conformation around a cross section outline of the toroidal support, to define two side portions substantially extending in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually spaced apart positions in an axial direction, and a crown portion extending at a radially outer position between the side portions,

wherein the crown portions of each strip section are consecutively disposed in side-by-side relationship along a circumferential extension of the toroidal support, whereas the side

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portions of each strip section are each partly covered with a side portion of at least one circumferentially consecutive section.

28. (once amended) The method of claim 27, wherein the side portions belonging to circumferentially contiguous strip sections on the toroidal support are caused to mutually converge in a direction of the geometric rotation axis of the toroidal support, covering of the side portions of each strip section progressively increasing in a direction of an inner circumferential edge of the carcass ply starting from a zero value close to transition regions between the side portions and the crown portions.

29. (once amended) The method of claim 27, wherein the strip sections are laid down by making the side portions of each strip section project from an inner circumferential edge of the toroidal support, projecting ends of the side portions defining the end flaps of the carcass ply.

Please add new claims 30-58, as follows:

30. (new) A carcass structure for a vehicle wheel tyre, comprising:

at least one carcass ply comprising thread elements substantially disposed transversely of a circumferential extension of the carcass structure; and

at least one pair of annular reinforcing structures disposed close to respective inner circumferential edges of the at least one carcass ply, each of the annular reinforcing structures comprising:

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at least one first circumferentially-inextensible annular insert substantially in a form of a crown disposed substantially coaxially of the carcass structure, close to an inner circumferential edge of the at least one carcass ply, the at least one first annular insert being formed of at least one first elongated element extending in concentric coils; and

at least one second circumferentially-inextensible annular insert substantially in a form of a crown disposed coaxially of the tyre, the at least one second annular insert being formed of at least one second elongated element extending in concentric coils,

wherein the at least one carcass ply has end flaps each turned back around an inner circumferential edge of a respective first annular insert and each axially interposed between respective first and second annular inserts,

each of the first and second annular inserts exhibiting a radially elongated transverse section outline.

31. (new) The carcass structure of claim 30, further comprising at least one filling body of elastomer material in contact with at least one of the annular inserts.

32. (new) The carcass structure of claim 31, wherein the at least one second annular insert is interposed between a respective end flap and the at least one filling body, the at least one second annular insert being in contact with an end flap on an opposite side relative to the at least one first annular insert.

33. (new) The carcass structure of claim 30, wherein a respective end flap of the at least one carcass ply completely covers a respective first annular insert.

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34. (new) The carcass structure of claim 30, wherein the at least one second annular insert projects beyond one end region of a respective end flap.

35. (new) The carcass structure of claim 30, wherein each second annular insert projects beyond an outer circumferential edge of the at least one first annular insert.

36. (new) The carcass structure of claim 30, wherein the at least one first annular insert comprises at least one first series of concentric coaxial coils and at least one second series of concentric coaxial coils disposed in axial side-by-side relationship with the coils of the at least one first series.

37. (new) The carcass structure of claim 36, wherein a number of coils of the at least one first series is greater than a number of coils of the at least one second series.

38. (new) The carcass structure of claim 37, wherein the at least one first coil series is directly in contact with the at least one carcass ply, whereas the at least one second coil series is directly in contact with a respective end flap.

39. (new) The carcass structure of claim 30, wherein the at least one first annular insert projects beyond one end region of a respective end flap.

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40. (new) The carcass structure of claim 30, wherein the at least one first annular insert projects beyond an outer circumferential edge of a respective second annular insert.

41. (new) The carcass structure of claim 31, wherein the at least one filling body is interposed between a respective end flap of the at least one carcass ply and a respective second annular insert.

42. (new) The carcass structure of claim 41, wherein the at least one second annular insert is directly in contact with at least one axially outer side surface of a respective filling body, located on an opposite side relative to an end flap of the at least one carcass ply.

43. (new) The carcass structure of claim 31, wherein the at least one filling body has a circumferentially outer portion directly in contact with a side surface of the at least one carcass ply.

44. (new) The carcass structure of claim 30, wherein the at least one carcass ply comprises:

a plurality of strip sections each comprising at least two of the thread elements disposed longitudinally and parallel to each other and at least partly covered with at least one layer of raw elastomer material,

each of the strip sections extending in a substantially U-shaped configuration according to a cross section outline of the carcass structure, to define two side portions substantially extending in planes orthogonal to a geometric axis of the carcass structure at mutually spaced

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apart positions in an axial direction, and a crown portion extending at a radially outer position between the side portions,

the crown portions being disposed in side-by-side relationship with each other along the circumferential extension of the carcass structure, whereas the side portions of each strip section are each partly covered with a side portion of at least one adjoining strip section.

45. (new) The carcass structure of claim 44, wherein the side portions of the strip sections mutually converge towards the geometric axis of the carcass structure, covering of the side portions of the strip sections progressively increasing in a direction of the inner circumferential edge of the at least one carcass ply, starting from a zero value close to transition regions between the side portions and the crown portions.

46. (new) A method of manufacturing a carcass structure for vehicle wheel tyres, comprising the steps of:

making a carcass ply having a pair of end flaps disposed circumferentially internally;

forming at least one annular reinforcing structure; and

applying the at least one annular reinforcing structure close to each end flap of the carcass ply;

wherein the step of forming the at least one annular reinforcing structure comprises:

applying at least one first circumferentially-inextensible annular insert close to a respective end flap of the carcass ply, the at least one first annular insert being formed of at least one first elongated element disposed in concentric coils;

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turning back a respective end flap of the carcass ply around an inner circumferential edge of the at least one first annular insert, and

applying at least one second circumferentially-inextensible annular insert close to the at least one first annular insert, the second annular insert being formed of at least one second elongated element disposed in concentric coils,

each of the first and second annular inserts being formed according to a radially elongated transverse section outline.

47. (new) The method of claim 46, further comprising the step of applying at least one filling body of elastomer material in contact with at least one of the annular inserts.

48. (new) The method of claim 46, wherein at least one of the first and second annular inserts is formed by winding up a continuous elongated element in radially-superposed concentric coils.

49. (new) The method of claim 46, wherein at least one of the first and second annular inserts is formed directly against the carcass ply.

50. (new) The method of claim 46, wherein at least one of the first and second annular inserts is formed in a forming die, the forming die being subsequently moved against the carcass ply for application of the at least one of the first and second annular inserts.

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51. (new) The method of claim 46, wherein the turning-back of the respective end flap comprises the following steps:

axially pushing the end flap for moving the end flap from a first position wherein the end flap projects radially inwardly relative to the at least one first annular insert to a second position wherein the end flap is axially oriented away from an equatorial plane of the carcass structure; and

exerting a rolling action on the end flap for laterally applying the end flap against the at least one first annular insert.

52. (new) The method of claim 47, wherein application of the at least one filling body comprises the steps of:

making the at least one filling body in a forming die; and

axially moving the forming die against the carcass structure.

53. (new) The method of claim 52, further comprising a step of coupling the at least one filling body with the at least one second annular insert in the forming die, before simultaneous application of the at least one filling body and the at least one second annular insert against the carcass structure.

54. (new) The method of claim 46, wherein application of the at least one filling body is carried out by forming the at least one filling body directly against the carcass structure.

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55. (new) The method of claim 54, wherein the forming of the at least one filling body against the carcass structure takes place by extrusion of at least one continuous strip element wound up in superposed coils.

56. (new) The method of claim 46, wherein manufacturing of the carcass ply comprises the following steps:

preparing strip sections each comprising longitudinal and parallel thread elements at least partly coated with one layer of raw elastomer material; and

depositing each of the strip sections onto a toroidal support in a substantially U-shaped conformation around a cross section outline of the toroidal support, to define two side portions substantially extending in planes orthogonal to a geometric axis of rotation of the toroidal support at mutually spaced apart positions in an axial direction, and a crown portion extending at a radially outer position between the side portions,

wherein the crown portions of each strip section are consecutively disposed in side-by-side relationship along a circumferential extension of the toroidal support, whereas the side portions of each strip section are each partly covered with a side portion of at least one circumferentially consecutive section.

57. (new) The method of claim 56, wherein the side portions belonging to circumferentially contiguous strip sections on the toroidal support are caused to mutually converge in a direction of the geometric rotation axis of the toroidal support, covering of the side portions of each strip section progressively increasing in a direction of an inner circumferential

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